

## Lagondaforum: Upgrading the window regulators - Part 1

### Upgrading the window regulators - Part 1

*Written by randall977 at Dec 22, 2012 10:13 pm*

Since the days are short and wet I thought I would spend some time refurbishing and upgrading the electric window regulators. The old motors are not worn out but do need a total rebuild, I have made the decision to replace the motors with modern ones which are smaller, lighter, more reliable and more powerful.

Several AML specialists will supply upgraded motors which will fit in the place of the original and original motors can be refurbished – either way, for a Rapide it would cost around £2000 for all four. The ready made units use kit car motors with an adapter plate and switch relays, a lot of thought and work has gone into developing these so though expensive doing it yourself is not easy.

The route I chose was to use high quality sealed Brose motors as used on premium brand cars etc, these are readily available and use the latest technology. Most cars now use high torque motors with a scissor type lift mechanism, however adapting them for use with a Piper setup has its problems. The main problem is that there are virtually no motors now which have a centrally driven shaft, they have an outer toothed ring and fixed central shaft – very stable and few wearing parts. The only solution is to make an adapter which will mate the outer ring to the existing toothed cog (which drives the window lift chain).

Taking the original regulator apart is not an easy task; it took me a little while to spot the tapered pin which fixes the cog to the shaft of the original motor. One of the cut off stitches had corroded internally so required new internal parts. I suspect that with a modern motor the cut off switches are not required – the motor stops when the window stops. However I will retain them as they work and may provide a more dignified stop for the glass.

As well as the adapter (which I spend days designing) the motor must be located exactly in order for the chain to run smoothly and utilised the existing cut off switches.

The next stage (Part 2) will be the addition of the switch relays and then a live test in a door with glass – this could show up more issues...

Here is where I am so far, this has been tested on a 12V supply and works well.

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### Re: Upgrading the window regulators - Part 1

*Written by SRD at Dec 24, 2012 3:48 pm*

Christian hi

I look forward to the results of all your hard work, no doubt, 126, will be happy to be updated if required...

Kind regards and many thanks for posting this.

Simon

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### Re: Upgrading the window regulators - Part 1

## Lagondaforum: Ugrading the window regulators - Part 1

*Written by randall977 at May 13, 2013 11:11 pm*

I basically set up the drivers window and put the relays in place with a switch to test the mechanism. It needs some more setting up to get the cut off switches to work and I didn't fit the main guide track. None-the-less it works pretty well, better than I thought it would.

The link below should show a clip of it working - sorry it's sideways and poor quality, it's my first video upload...a better one will follow!

[Video Clip Here](#)

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